CLAIMS

1. Peptide, immunogenic with lymphocytes directed against metastatic melanomas, characterized in that it comprises at least part of the amino-acid sequence of SEQ.ID.No. 1 wherein the amino-acid at position 2 or 8 is substituted.

2. Peptide according to claim 1, wherein at position 2 Threonine is substituted by Isoleucine, Leucine or Valine.

3. Peptide according to any of claims 1-2, wherein at position 8 Glutamine is substituted by Alanine.

4. Peptide according to any of claims 1-3, characterized in that it comprises the amino-acid sequence of SEQ.ID.No.: 2-8.

5. Nucleotide sequence characterized in that it comprises a nucleotide sequence encoding the peptide according to any of claims 1-4.

6. Vaccine, characterized in that it comprises the peptide according to any of claims 1-4 or an epitope thereof or the nucleotide sequence according to claim 5.

7. Vaccine according to claim 6, characterized in that the peptide is mixed with a pharmaceutically acceptable carrier or diluent.

8. Vaccine according to any of claims 6-7, characterized in that it comprises an antigen presenting cell, which has been preloaded with the peptide.

9. Vaccine, characterized in that it comprises the T cell receptor against the peptides according to any of claims 1-4 or cells expressing said T cell receptor.

10. Vaccine according to any of claims 6-9, characterized in that it also comprises one or more compounds selected from the group consisting of an adjuvant, one or more cytokines, antibodies directed against CD2, CD3, CD27,

CD28 or other T cell surface antigens and helper epitopes to stimulate CD4+ or CD8+ T cells.

11. Method for the generation of antigen reactive tumor infiltrating lymphocytes, characterized in that it comprises the steps of:

a. taking a sample of a melanoma from a patient;

b. isolating the tumor infiltrating lymphocytes from the sample;

c. reacting said lymphocytes with the peptides according to any of claims 1-4;

d. isolating the lymphocytes binding to said antigen.

12. Tumor infiltrating lymphocytes characterized in that they are capable of binding to the peptides according to any of claims 1-4.

13. Vaccine characterized in that it comprises tumor infiltrating lymphocytes according to claim 12.

14. Conjugate of a peptide and a detectable marker, characterized in that the peptide according to any of claims 1-4.

15. Conjugate according to claim 14, characterized in that the detectable marker is a radionuclide.

16. Antibody, characterized in that it is directed to the peptide according to claims 1-4.

17. Vaccine, characterized in that it comprises the antibody according to claim 16.

18. Method for monitoring immunotherapy, characterized in that the presence of antibodies directed to the peptide according to claims 1-4, is detected from the serum of a patient.

19. Kit for the detection of antibodies according to claim 16, characterized in that it comprises conjugates according to claim 14 or 15.